Claims:

1. An isolated polypeptide which is a heptad portion of a Henipavirus F protein that functions to inhibit fusion of a membrane of a paramyxovirus and a plasma membrane of a cell.

2. The polypeptide of claim 1 wherein said polypeptide comprises a biologically active fragment of a heptad portion of a Henipavirus F protein that functions to inhibit fusion of a membrane of a paramyxovirus and a plasma membrane of a cell.

3. The polypeptide of claims 1-2 wherein said polypeptide comprises a deletion, substitutional, or insertional variant of a heptad portion of a Henipavirus F protein that functions to inhibit fusion of a membrane of a paramyxovirus and a plasma membrane of a cell.

4. The polypeptide of claims 1-3 wherein said polypeptide is recombinant.

5. The peptide of claims 1-4 wherein the polypeptide is derived from HeV or NiV.

6. A polypeptide that comprises the polypeptide sequence of SEQ ID NO 1 or SEQ ID NO 2.

7. The polypeptide of claim 6 wherein said polypeptide comprises a biologically active fragment of SEQ ID NO 1 or SEQ ID NO 2.

8. The polypeptide of claims 6-7 wherein said polypeptide comprises a deletion, substitutional, or insertional variant of SEQ ID NO 1 or SEQ ID NO 2.

9. The polypeptide of claims 6-8 wherein said polypeptide is recombinant.

10. The peptide of claims 6-9 wherein the poypeptide is derived from HeV or NiV.

11. A pharmaceutical composition comprising an effective amount of a polypeptide sequence of SEQ ID NO 1 or SEQ ID NO 2 and a pharmaceutically acceptable carrier.

12. The composition of claim 11 comprising a biologically active fragment of SEQ ID NO 1 or SEQ ID NO 2.

13. The composition of claims 11-12 comprising a deletion, substitutional, or insertional variant of SEQ ID NO 1 or SEQ ID NO 2.

14. The composition of claims 11-13 wherein the composition is a therapeutic or post-exposure prophylactic.

15. The composition of claims 11-13 wherein the composition is a vaccine.

16. A method for inhibiting fusion between a membrane of a paramyxovirus and a plasma membrane of a cell comprising administering a composition according to claims 11-15.

17. The method of claim 16 wherein said paramyxovirus is of the genus *Henipavirus*.

18. The method of claims 16 or 17 wherein said paramyxovirus is of the subfamily *Paramyxovirina*.

19. The method of claims 16-18 wherein said paramyxovirus is HeV or NiV.

20. An isolated polynucleotide sequence encoding a polypeptide that inhibits fusion between a membrane of a paramyxovirus and a plasma membrane of a cell, wherein said polynucleotide sequence selected from the group consisting of:

a DNA sequence encoding a polypeptide of SEQ ID NO 1; and

a DNA sequence capable of hybridizing under high stringency conditions to the complement of a DNA sequence encoding a polypeptide of SEQ ID NO 1.

21. A vector comprising a polynucleotide sequence of claim 20.

22. A cell comprising a polynucleotide sequence of claim 20.

23. A method for treating infection with a virus, comprising administering the composition of claims 11-15.

24. The method of claim 23 wherein said virus is a paramyxovirus.

25. The method of claims 23 or 24 wherein said paramyxovirus is of the genus *Henipavirus*.

26. The method of claims 23-25 wherein said virus is HeV or NiV.

27. An aptamer of a heptad portion of a Henipavirus F protein that functions to inhibit fusion of a membrane of a paramyxovirus and a plasma membrane of a cell.

28. An aptamer of a polypeptide sequence of SEQ ID NO 1 or SEQ ID NO 2.

29. The biologically active fragment of an aptamer of claims 27 or 28.

30. A method for inhibiting fusion between a membrane of a paramyxovirus and a plasma membrane of a cell comprising administering an effective amount of an aptamer of claims 27-29.

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